

REMARKS

Applicants respectfully request reconsideration of the above-captioned application. Claims 1-17 are currently pending.

The Office Action includes a rejection of claims 1-17 under 35 U.S.C. §101 alleging that the claimed invention is directed to non-statutory subject matter. Specifically, the Office Action suggests that claims 1, 6, 9 and 12 refer to methods and apparatuses for encoding and decoding audio data "therefore executing a mathematical algorithm." However, it is respectfully submitted that the claims do not merely execute a mathematical algorithm nor do they merely claim "acts" of claim process [that] manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing," and therefore are appropriate subject matter. The claims have been adjusted to reflect the current state of the law as reflected in two recent cases from the CAFC (copies of the decisions are attached).

In the recent decision by the CAFC (2006-1371, Serial No. 09/211,928), *In re Nuijten*, which was decided on September 20, 2007, the rejected claim 14, included a signal with embedded supplemental information that could be used to prevent unauthorized copying. The Federal Circuit found the signal claims to be unpatentable under 35 U.S.C. § 101. However, the Nuijten claims also included claims reciting a process for adding load distortion, supplemental information to the signal and a device that performs out of process as well as a medium for storing the resulting signals. All of these different categories were found to be patentable. The Comiskey patent application claimed the method of a mandatory arbitration resolution. (*In re Comiskey*, CAFC 2006-1286, Serial No. 09/461,742, Decided September 20, 2007). The Federal Circuit clarified that an abstract idea is

unpatentable in that it has "no claimed practical application". The Federal Circuit also said that an abstract idea with a practical application will only be patentable if it "involves another class of statutory subject matter." The Supreme Court, as articulated by the Federal Circuit, has recognized two instances when the latter requirement is met, such as when the abstract idea is a process that is tied to a particular apparatus, or when the process changes some material to do a different standard thing.

In light of these recent decisions, Applicants have amended the method claims to recite that at least one of the steps is carried out in a programmable device. This clearly places it within the bailiwicks of statutory subject matter under these two recent Federal Circuit cases and the Supreme Court precedent identified therein. See independent claims 1 and 6. Applicants believe that the Examiner simply overlooked the fact or inadvertently listed claims 9-17 which are directed to an apparatus. Hence, these claims are clearly within the statutory subject matter of 35 U.S.C. § 101.

In light of the foregoing, Applicants respectfully request reconsideration and allowance of the above-captioned application.

The Office Action also includes a rejection of claims 1-4 and 6-16 under 35 U.S.C. §102(b) as allegedly being anticipated by Park (U.S. Patent 6,438,525) and a rejection of claims 5 and 17 under 35 U.S.C. §103 as allegedly being unpatentable over Park et al. in view of Andrew et al. (U.S. 2002/0131084). These rejections are respectfully traversed.

The Park patent is directed to solving a problem wherein an optimal state suitable for a fixed bit rate is searched for then quantized then encoded. Hence, if

the transmission bandwidth is lowered due to poor network conditions in transmitting bitstreams through the network or the like, cut-offs may occur and appropriate services cannot be rendered to a user. The Park patent is directed to solving the problem when the bitstream desired to be transformed into bitstreams of small size more suitable for mobile apparatuses. For example, a re-encoding process is performed in order to reduce the size of the bitstream and the amount of computation that is required increases. In light of these problems, the bitstream's scalable encoding/decoding method and apparatus using the bit-slice arithmetic coding (BSAC) as disclosed in the Park patent was developed by the assignee of the present application.

According to the BSAC technique, a bitstream coded with a high bit rate can be made into a bitstream with a low bit rate, and restoration is possible with only part of the bitstream. Accordingly, when the network is overloaded, or the performance of the decoder is poor, or a user requests a low bid rate, services with some degree of audio quality can be provided to the user by using only part of the bitstream. However, the quality will inevitably decrease in proportion to the decrease and bit rate. As explained at page 2 of the present application, since the BSAC technique adopts arithmetic coding, complexity is high and when the BSAC technique is implemented in an actual apparatus, the cost increases. In addition, since the BSAC technique uses a modified discrete cosine transform (MDCT) for transformation of an audio signal, audio quality in a lower layer may severely deteriorate.

The differences between the coding method according to the present invention and the prior art BSAC technique include the following and are identified at page 17 of the present application. First, in the BSAC technique, coding is

performed in units of bits, while the coding of the presently claimed invention is performed in units of symbols. This difference is reflected in the independent claims. Secondly, in the BSAC technique, arithmetic coding is used, while Huffman coding is used. Arithmetic coding provides a higher compression gain, but increases complexity and cost. Accordingly, in the present invention, data is coded not in units of bits but in units of symbols through Huffman coding such that the complexity and cost actually decreases.

As stated previously, the independent claims reflect one or more of these differences. For instance, independent claim 1 recites *inter alia* "Hoffman-coding the obtained plurality of quantized samples *and units of symbols* in order from a *symbol formed with a most significant bits* (MSP) down to a *symbol formed of the least significant bits* (LSB) by referring to the coding model information." As for the Huffman coding, Applicants note in dependent claim 5. In addition, independent claim 6 recites a method of decoding the audio data which employs Huffman-decoding audio signals "in units of symbols in order from a symbol formed with MSP bits down to a symbol formed with LSB bits and obtaining quantized samples by referring to the coding model information", among other recitations of method claim 6.

In this regard, Applicants have looked at column 4, lines 37-50 and 64-65 of the Park patent but did not see mention of symbols. Instead, Applicants see the express recitation that the digits in the decoding step are "bits", in column 4, line 49, for instance. Hence, the combination of coding and decoding symbols rather than bits is not shown and, while Huffman decoding is mentioned in passing, it is not

mentioned with reference to symbols, as explained above. Apparatus claims 9 and 12 bear the same distinctions mentioned above.

While other distinctions doubtless exist in the dependent claims or the independent claims taken as a whole, these points will not be belabored for sake of brevity.

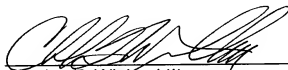
In light of the foregoing, Applicants respectfully request withdrawal of the rejections and issuance of a Notice of Allowance. Should any residual issues exist, the Examiner is invited to contact the undersigned at the number listed below.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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By:


Charles F. Wieland III
Registration No. 33096

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620